



**Mount John University Observatory  
and  
Astronomy Section of the Department of Physics**

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**PUBLICATIONS  
(1961-1979)**

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**University of Canterbury  
Christchurch, New Zealand**



MT JOHN UNIVERSITY OBSERVATORY

PUBLICATIONS (1961-1979)

This compilation lists publications in astronomy ;

- (a) based on observations made at Mt John University Observatory, or
- (b) written in the Department of Physics, University of Canterbury,

and is divided among the following categories :

- (1) Research Papers
- (2) Papers read at Conferences
- (3) Research notes in the Information Bulletin on Variable Stars
- (4) Research notes in the I.A.U. Circulars
- (5) Ph.D thesis
- (6) M.Sc. thesis
- (7) Reviews
- (8) Publications from the Bamberg Sky Patrol
- (9) About Mt John Observatory
- (10) Miscellaneous

\* Indicates University of Canterbury staff member or student.

RESEARCH PAPERS :

- Chambliss, C.R. (1967)  
The eclipsing binary system BV 419 (V535 Ara).  
Astron. J. 72, 512.
- Chambliss, C.R. (1967)  
The eclipsing binary system BV 430 (RS Cha).  
Astron. J. 72, 518.
- \* Bateson, F.M. and Kohler, U. (1968)  
The flare star UV Ceti.  
Southern Stars 22, 118.
- Chambliss, C.R. (1968)  
The eclipsing binary system AU Puppis.  
Astron. J. 73, 1024.
- Higgins, C.S., Solomon, L.H. and \*Bateson, F.M. (1968)  
Optical and radio observations of the flare star UV Ceti  
in Australasia during Sept.-Oct. 1967.  
Austr. J. of Physics 21, 725.
- Kam-Ching Leung (1968)  
Dwarf cepheid HD 199757.  
Astron. J. 73, 500.
- Price, S.D. (1968)  
Results of an infra-red stellar survey.  
Astron. J. 73, 431.
- \* Baggaley, W.J. (1970)  
The determination of the initial radii of meteor trains.  
Mon. Not. R. Astron. Soc., 147, 231, (1970).
- \* Mochnacki, S.W. and \*Doughty, N.A. (1972)  
A model for the totally eclipsing W UMa system AW UMa.  
M.N.R.A.S. 156, 51.
- \* Mochnacki, S.W. and \*Doughty, N.A. (1972)  
Models for five W Ursae Majoris systems.  
M.N.R.A.S. 156, 243.
- \* Baggaley, W.J. (1973)  
Observations of meteors associated with Comet Grigg-Skjellerup.  
The Observatory 93, 61,
- Trodahl, H.J., Sullivan, D.J. and Beaglehole, D. (1973)  
Monochromator colour indices of  $\delta$  Scuti and  $\rho$  Puppis.  
P.A.S.P. 85, 608.



- Gilmore, A.C. (1974)  
Comet Clark 1973i.  
Southern Stars 25, 128.
- Kam-Ching Leung (1974)  
Binary systems in star clusters, I: V701 Sco.  
Astron. & Astrophys. Suppl. 13, 315.
- Kam-Ching Leung (1974)  
Photoelectric investigation of BV544.  
Astron. J. 79, 852.
- \* Baggaley, W.J. (1975)  
Enduring meteor trains and chemiluminescence.  
Bull. Astron.Inst. Czech. 27, 28.
- \* Baggaley, W.J. (1975)  
Photographic meteor train spectra.  
The Observatory 95, 293.
- \* Baggaley, W.J. (1975)  
Sodium emission from long enduring meteor trains.  
Nature, 257, 567.
- \* Baggaley, W.J. (1975)  
Meteor trains and chemiluminescent processes.  
Mon. Not. R. Astron.Soc. 173, 497.
- Kam-Ching Leung and Schneider, D.P. (1975)  
Binary systems in star clusters, II: HD 162724.  
Astrophys. J. 201, 792.
- Kilambi, G.C. (1975)  
Broad-band and intermediate band photometry of NGC 6025.  
P.A.S.P. 87, 975.
- \* Snowden, M.S. (1975)  
Four colour and H $\beta$  photometry for open clusters I: NGC 2516.  
P.A.S.P. 87, 721.
- \* Snowden, M.S. (1976)  
Four-colour and H $\beta$  photometry for open clusters  
II: NGC 6475.  
P.A.S.P. 88, 174.
- Kilambi, G.C. (1976)  
uvby photometry of HD 116994.  
Acta.Astron. 26, 247.
- \* Baggaley, W.J. (1977)  
The mass distribution of massive meteoroids determined by  
the occurrence of brilliant fireballs.  
Nature, 266, 608.
- \* Baggaley, W.J. (1977)  
Sodium emission in persistent meteor trains.  
Nature, 267, 377.

- \* Baggaley, W.J. (1977)  
The mass distribution of large meteoroids.  
Mon. Not. R. Astron. Soc., 180, 89.
- \* Baggaley, W.J. (1977)  
The possibility of the detection of meteor streams in inter-planetary space.  
The Observatory 97, 123.
- \* Baggaley, W.J. (1977)  
The meteoric nightglow.  
Mon. Not. R. Astron. Soc., 181, 203.
- \* Bateson, F.M. (1977)  
The light curve of dwarf nova VW Hydri.  
N.Z. Journal of Science 20, 73.
- \* Hearnshaw, J.B. (1977)  
Radial velocity measurements with an échelle spectrometer.  
Observatory 97, 5.
- \* Hearnshaw, J.B. (1977)  
The equivalent widths of iron lines in the spectra of cool standard stars for spectral analysis.  
Publ. Astron. Soc. Pacific 89, 356.
- Kilambi, G.C. (1977)  
Broad-band photometry of NGC 6530.  
M.N.R.A.S. 178, 423.
- Kilambi, G.C. (1977)  
Variable star photometry of NGC 6530.  
Acta. Astron. 27, 179.
- Trodahl, H.J. and Sullivan, D.J. (1977)  
Temperature and radius variations in  $\delta$  Sct,  $\rho$  Pup and X Cae.  
M.N.R.A.S. 179, 209.
- \* Baggaley, W.J. (1978)  
Meteor magnitudes and enduring trains.  
The Observatory. 98, 8.
- \* Baggaley, W.J. (1978)  
The size distribution of large meteor bodies.  
Bull. Astron. Instit. Czech. 29, 59.
- \* Gilmore, G.F. (1978)  
Discovery of supernova 1978a.  
Southern Stars 27, 144.
- \* Hearnshaw, J.B. (1978)  
Observations of the H $\alpha$  profile in the RS CVn binary, HR 1099.  
Astron. J. 83, 1531.
- Kilambi, G.C., DuPuy, D.L. and Koegler, C.A. (1978)  
uvby photometry of HR 8102.  
P.A.S.P. 90, 194.
- \* McInally, C.J. (1978)  
A photometric study of some Am stars.  
Observatory 98, 227.



- \* McInally, C.J. and \*Austin, R.R.D. (1978)  
A survey of southern  $\delta$  Scuti variables.  
M.N.R.A.S. 184, 885.
  
- Sullivan, D.J. and Trodahl, H.J. (1978)  
Temperature variations in  $\rho$  Phe.  
M.N.R.A.S. 183, 201.
  
- \* Baggaley, W.J. (1979)  
Enduring optical emission from meteors.  
Paper presented to MIST meeting July, 1978 Sheffield U.K.  
Q.J. Roy. Astron. Soc. 20, 160.
  
- \* Baggaley, W.J. (1979)  
Measurements of the velocity dependence of the initial radii  
of meteor trains.  
Bull. Astron. Instit. Czech. (in press).
  
- \* Baggaley, W.J. (1979)  
Measurements of the ionization heights of sporadic radio-  
meteors.  
Mon. Not. R. Astron. Soc. (accepted).
  
- \* Desikachary, K. and \*McInally, C.J. (1979)  
Frequency Analysis of the early-type  $\delta$  Scuti star HD 153747.  
Mon. Not. R. Astron. Soc.
  
- \* Desikachary, K. (1979)  
On some recent spectroscopic analyses of subdwarfs.  
Astrophys. Letters (in press).
  
- \* Gilmore, G.F. (1979)  
Optical monitoring of Southern quasars I: Data reduction  
and first results.  
M.N.R.A.S. 187, 389.
  
- \* Hearnshaw, J.B. and \*Newburgh, C.D. (1979)  
A model atmosphere analysis of the iron spectrum of  $\epsilon$  Virginis.  
Mon. Not. R. Astron. Soc. 186, 85.
  
- \* Gilmore, G.F. (1978)  
Optimal hypersensitisation of Kodak spectroscopic plates  
type IIaD.  
Southern Stars 27, 155.

PAPERS READ AT CONFERENCES :

- Price, S.D. (1968)  
Southern Hemisphere stellar mapping in the PbS region.  
Astron. J. 73, 543.
- Kilambi, G.C. (1977)  
Variable photometry of NGC 6530  
J. Roy. Astron. Soc. Canada 71, 410,  
(read at 8th A.G.M., Univ. of W. Ontario).
- \* Desikachary, K., and \*McInally, C.J. (1978)  
Frequency analysis of the early type  $\delta$  Scuti star  
HD 153747.  
I.A.U. Colloquium No. 46, University of Waikato,  
Hamilton, N.Z. 46, 365.
- \* Gilmore, G.F. (1978)  
Photographic photometry in the absence of standard stars.  
I.A.U. Colloquium 46, University of Waikato, Hamilton, N.Z.,  
Nov. 1978, 46, 442.
- \* Gilmore, G.F. (1978)  
Optical monitoring of southern quasars.  
I.A.U. Regional Meeting in Astronomy,  
Victoria University of Wellington, (Dec., 1978).
- \* Hearnshaw, J.B. (1978)  
RS Canum Venaticorum binaries in the southern hemisphere.  
I.A.U. Colloquium No.46., University of Waikato, Hamilton,  
N.Z., 46, 371.
- Sullivan, D.J. and Trodahl, H.J. (1978)  
A Selection of measurements using a versatile intermediate  
resolution spectrometer.  
I.A.U. Regional Meeting in Astronomy,  
Victoria University of Wellington, (Dec., 1978).
- \* Hearnshaw, J.B. (1978)  
Copper and Zinc abundances for cool stars.  
I.A.U. Regional Meeting in Astronomy,  
Victoria University of Wellington, (Dec., 1978).
- \* Baggaley, W.J. (1979)  
Meteors and Atmospheres.  
Proceedings of I.A.U. Symposium No. 90. Ottawa Aug. 1979  
(To be published).
- \* Baggaley, W.J. (1979)  
Analysis of Meteor Data.  
Proceedings of I.A.U. Symposium No.90. Ottawa Aug 1979.  
(To be published).



INFORMATION BULLETIN ON VARIABLE STARS :

- \* Bateson, F.M. (1969)  
The flare star YZ Cmi  
I.B.V.S. No. 352.
- \* Bateson, F.M. (1969)  
The flare star V645 Cen  
I.B.V.S. No. 353.
- \* Bateson, F.M. (1969)  
The flare star UV Ceti  
I.B.V.S. No. 354.
- Chambliss, C.R. (1969)  
The Variability of BV 516  
I.B.V.S. No. 408.
- Kilambi, G.C. (1972)  
Tests of two suspected  $\delta$  Scuti variables  
I.B.V.S. No. 630.
- \* McInally, C.J. and\*McKay, B.J. (1977)  
HD 153747: A  $\delta$  Scuti variable  
I.B.V.S. No. 1257.
- Trodahl, H.J. and Sullivan, D.J. (1977)  
Photometry of HD 153747  
I.B.V.S. No. 1270.
- \* McInally, C.J. and\*Austin, R.R.D. (1977)  
RSCha: A  $\delta$  Scuti variable  
I.B.V.S. No. 1334.
- \* Hearnshaw, J.B. and Oliver, J.P. (1977)  
HD 5303: A new southern RS CVn binary  
I.B.V.S. No. 1342.



INTERNATIONAL ASTRONOMICAL UNION CIRCULARS :

(Note : The name listed for each circular refers to the Mt John observer. Other names may also appear in the same item).

- \* Austin, R.R.D. (1972)  
Comet Bradfield 1972f  
I.A.U.C. 2394.  
(See also I.A.U.C. 2402).
- \* Austin, R.R.D. and \*Clark, M. (1972)  
Supernova in NGC 5253  
I.A.U.C. 2421.
- \* Chapman, G.A. (1972)  
Nova in LMC  
I.A.U.C. 2449.
- \* Clark, M. (1973)  
Comet Clark (1973i)  
I.A.U.C. 2545.
- \* Clark, M. (1973)  
Comet Clark  
I.A.U.C. 2544.
- \* Clark, M. (1973)  
Periodic Comet Clark (1973i)  
I.A.U.C. 2550.
- \* Rea, W. (1975)  
Comet Lovas (1974c)  
I.A.U.C. 2767.
- \* Rea, W. (1975)  
Periodic Comet Honda-Mrkos-Pajdusáková<sup>v</sup> (1974f)  
I.A.U.C. 2767.
- \* Austin, R.R.D. (1975)  
Periodic Comet Eneke  
I.A.U.C. 2795.
- \* Clark, M. (1975)  
Comet Kobayashi-Berget-Milon (1975h)  
I.A.U.C. 2813.
- \* Austin, R.R.D. (1975)  
Comet Kobayashi-Berger-Milon (1975h)  
I.A.U.C. 2813.
- \* Austin, R.R.D. (1975)  
Comet Bradfield (1975p)  
I.A.U.C. 2874.



- \* Austin, R.R.D. (1976)  
Comet West (1975n)  
I.A.U.C. 2894.
- \* Austin, R.R.D. (1976)  
Comet Mori-Sato-Fujikawa (1975j)  
I.A.U.C. 2908.
- \* Austin, R.R.D. (1976)  
Comet Kobayashi-Berger-Milon (1975h)  
I.A.U.C. 2912.
- \* Austin, R.R.D. (1976)  
Comet Suzuki-Saigusa-Mori (1975k)  
I.A.U.C. 2913.
- \* Austin, R.R.D. (1976)  
Comet Bradfield (1976a)  
I.A.U.C. 2933.
- \* Austin, R.R.D. (1976)  
Comet Bradfield (1976a)  
I.A.U.C. 2956.
- Gilmore, A.C. (1976)  
Periodic Comet Gunn  
I.A.U.C. 3015.
- Gilmore, A.C. (1976)  
Comet Lovas (1974c)  
I.A.U.C. 3018.
- Kilmartin, P.M. (1976)  
Comet Schuster (1976c)  
I.A.U.C. 3019.
- \* Austin, R.R.D. (1977)  
Nova Sagittarii 1977  
I.A.U.C. 3067.
- Gilmore, A.C. (1977)  
Comet Schuster (1975 II)  
I.A.U.C. 3142.
- Gilmore, A.C. (1977)  
Periodic Comet Kopff (1976b)  
I.A.U.C. 3149.
- \* Austin, R.R.D. (1978)  
Comet Bradfield (1978c)  
I.A.U.C. 3195.
- \* Austin, R.R.D. (1978)  
Comet Bradfield (1978c)  
I.A.U.C. 3207.



\* Gilmore, G.F. (1978)  
A possible supernova in MCG-4-32-23  
I.A.U.C. 3221.

\* Gilmore, G.F. (1978)  
PKS 1954-388  
I.A.U.C. 3247.



Ph.D THESES :

Kilambi, G.C. (1975)

Photometric investigations of two southern galactic clusters (NGC 6025 and NGC 6530)  
(University of Pennsylvania).

\* Gilmore, G.F. (1979)

Observational extragalactic astronomy: An investigation of southern quasars and related objects.



M.Sc. THESES :

- \* Mochnecki, S.W. (1971)  
The W Ursae Majoris Systems: Interpretation of Light Curves and Line Profiles.
- \* Marsh, K.A. (1971)  
Semi-detached close binary systems.
- \* McKay, B.J. (1972)  
Quasi-stellar objects: A critical review of photographic detection methods and initiation of a photographic search for southern QSOs with the telescopes at Mt John.
- \* Ackerley, P.D. (1974)  
Quasi-stellar objects: Investigations of the use of Mt John Observatory equipment for establishing magnitude sequences to determine the magnitude of faint QSOs with special reference to the southern celestial pole region.
- \* Snowden, M.S. (1974)  
uvby and H $\beta$  photometry of NGC 6475 and NGC 2516.
- \* Chapman, G. (1975)  
Quasi-stellar objects: Infra-red photography near the South Celestial pole.
- \* Scott, J.L. (1977)  
Astronomical observations: Quantitative measurement and analysis of atmospheric conditions affecting astronomical observations.
- \* McInally, C.J. (1977)  
The Delta Scuti stars: A study of the  $\delta$  Scuti variables and related stars.
- \* England, M.N. (1979)  
A spectrographic analysis of the  $\alpha$  Centauri system.
- \* Mackwell, S.J. (1979)  
Excitation temperatures for late-type stars.



REVIEWS :

- \* Doughty, N.A. (1970)  
Super-dense stars.  
Southern Stars 23, 164.
- \* Gilmore, G.F. (1977)  
Late stages of stellar evolution  
Southern Stars 27, 44.
- \* Gilmore, G.F. (1977)  
The Size of the Universe.  
Southern Stars 27, 65.
- Gilmore, A.C., and Kilmartin, P.M. (1978)  
These nearly were ours.  
Southern Stars 27, 178.
- \* Hearnshaw, J.B. (1979)  
Moving groups of Stars.  
Southern Stars 28, 30.
- \* Baggaley, W.J. (1978)  
Radiation from meteors I Primary emission.  
Southern Stars 27, 147.
- \* Baggaley, W.J. (1978)  
Radiation from meteors: II Enduring emission.  
Southern Stars 27, 157.



PUBLICATIONS FROM THE BAMBERG SKY PATROL :

These papers all come from the Remeis Observatory, Bamberg, W.Germany and are listed here in this section only. The Bamberg Sky Patrol was operated at Mt John Observatory from 1967 to 1977.

- Ott, H. and Knigge, R. (1968)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band VII, Nr.73.
- Strohmeier, W. (1968)  
New Bright Southern Variable Stars.  
I.B.V.S. No.289.
- Strohmeier, W. (1968)  
Period Control of the Cepheids V737 Cen and AX Cir.  
I.B.V.S. No. 304.
- Strohmeier, W. and Knigge, R. (1968)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band VII, Nr. 75.
- Bauernfeind, H. (1969)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band VIII, Nr.84.
- Strohmeier, W. and \*Patterson, I. (1969)  
New Bright Southern Variable Stars.  
I.B.V.S. No. 330.
- Strohmeier, W. and Bauernfeind, H. (1969)  
Elements for Sonneberg Variables (1X).  
I.B.V.S. No. 360.
- Shaw, S. and Sievers, J.R. (1970)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band VIII, Nr. 90.
- Shaw, S. and Sievers, J.R. (1970)  
New Bright Southern Variable Stars.  
I.B.V.S. No. 477.
- Sievers, J.R. (1970)  
A Nova in the L.M.C, BV 1261.  
I.B.V.S. No. 448.
- Sievers, J.R. (1970)  
Nova Sagittarii 1969, BV 1262.  
I.B.V.S. No. 452.
- Bloomer, R. (1971)  
New Bright Southern Variables.  
I.B.V.S. No. 586.
- Bloomer, R. (1971)  
Elements for two Bamberg variables.  
I.B.V.S. No. 587.



- Friedrich, D. and Schöffel, E. (1971)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band VIII, Nr.95.
- Friedrich, D. and Schöffel, E. (1971)  
New Bright Southern Variable Stars.  
I.B.V.S. No. 558.
- Strohmeier, W. (1971)  
New Bright Southern Variable Stars.  
I.B.V.S. No. 562.
- Martins, D.H. (1972)  
New Southern Variable Stars.  
I.B.V.S. No. 705.
- Strohmeier, W. (1972)  
New Bright Southern Variable Stars.  
I.B.V.S. No. 610.
- Strohmeier, W. (1972)  
Three new eclipsing binaries.  
I.B.V.S. No. 665.
- Schneider, W.H. (1973)  
New Southern Variable Stars.  
I.B.V.S. No. 826.
- Strohmeier, W. and Knigge, R. (1973)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band X, Nr. 106.
- Mackworth, N.L. (1974)  
New Southern Variable Stars.  
I.B.V.S. No. 921.
- Strohmeier, W. and Knigge, R. (1974)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band X, Nr. 110.
- Carter, B.S. (1975)  
New Faint Southern Variable Stars.  
I.B.V.S. No. 994.
- Strohmeier, W. and Knigge, R. (1975)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band X, Nr. 116.
- Rahe, J. and Schöffel, E. (1976)  
Period and Period Changes of the Eclipsing Binary BV549 Sco.  
I.B.V.S. No. 1092.
- Knigge, R. and Sosna, F.M. (1977)  
Mitt. über Veränderliche der Bamberge Liste.  
Veröff. der Remeis Sternwarte, Bamberg. Band XII, Nr.125.



ABOUT MT JOHN UNIVERSITY OBSERVATORY :

- \* Bateson, F.M. (1961)  
A search for clear skies.  
Southern Stars 19, 3.
- \* Bateson, F.M. (1962)  
Site-testing in New Zealand.  
Sky and Telescope 24, 78.
- \* Bateson, F.M. (1963)  
Mt John Observatory: A Milestone in N.Z. Astronomy.  
Southern Stars 20, 87.
- Babcock, H.W., Crotty, D.L., and Irwin, J.B. (1964)  
Observatory Site Survey in the S. Hemisphere.  
Carnegie Inst. of Washington.  
C.A.R.S.O. report No. 1, pages 23-25.
- \* Bateson, F.M. (1964)  
Final Report on the Site Selection Survey of N.Z.  
Publ. Uni. of Pennsylvania, Astron. Series Vol. X.
- \* Bateson, F.M. (1966)  
Mt John University Observatory: The first year's work.  
Southern Stars 21, 159.
- \* Hearnshaw, J.B. (1977)  
The cassegrain échelle spectrograph at Mt John Observatory.  
Proc. Astron. Soc. Australia 3, 102.
- \* Hearnshaw, J.B. (1978)  
The cassegrain échelle spectrograph at Mt John Observatory.  
Sky and Telescope 56, 6.
- Wood, F.B. (1979)  
First Asian South Pacific regional meeting of I.A.U.  
Earth and Extraterrestrial Sciences.  
(In press).



MISCELLANEOUS :

- \* Bateson, F.M. (1964)  
Next May's eclipse in the Pacific.  
Sky and Telescope 28, 210.
- \* Bateson, F.M. (1965)  
Eclipse Expeditions on Manuae Atoll.  
Sky and Telescope 30, 78.
- \* Doughty, N.A. (1970)  
Teaching astronomy with the I.A.U.  
Southern Stars 23, 153.
- \* Doughty, N.A., Shane, C.D., and Wood, F.B. (1972)  
Canterbury Sky Atlas (Australis): An extension  
of the Lick Sky Atlas.  
University of Canterbury.
- \* Doughty, N.A., Shane, C.D., and Wood, F.B. (1974)  
The all-sky sixteenth magnitude photographic  
sky surveys of Mt John University Observatory  
and Lick Observatory.  
Southern Stars 25, 107.



